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PROTECTED SPECIES SURVEY

CROSS STREET, PENYCAE

WREXHAM

NORTH WALES, LL14 1UB

FOR

ISP Architects Ltd

24th September 2012

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1. INTRODUCTION

A preliminary bat, barn owl and bird survey was undertaken on the 6th September 2012. The survey was carried out by David Bennett, a licensed and experienced bat surveyor and ecologist (CCW & Natural England licenses) following a request by ISP Architects on behalf of their client. On the 22nd September 2012 an emergence survey was undertaken in respect of the barn, two surveyors carried out the emergence survey to ensure coverage of the building.

The survey was requested to satisfy planning requirements in respect of any protected species issues for the disused agricultural barn located at Cross Street, Penycae, Wrexham, LL14 1UB. A planning consent is being sought to permit the conversion of the barn and the demolition of a block outbuilding, lean-to shed and a metal barn.

2. BAT BIOLOGY

There are now 17 species of bat in the UK, many of which can be found within this part of Wales. Each bat gives birth just once a year, early in summer, the females tending to gather together in a communal roost to give birth and bring up their young. This is the time when they are most likely to use buildings. By the end of the summer the roosts are often vacated for other more suitable hibernation sites such as caves, mines or trees. Hibernation sites are usually characterised by stable temperatures with a high level of humidity. When temperatures fall and food becomes scarce they hibernate and live off body fat stored during the autumn. During mild winters bats can still often be seen on an evening flying and looking for food. Bats use a variety of different structures for the purposes of roosting, these can include mature trees, caves, mines, buildings (old and new), bridges and tunnels.

Bats will generally cause no harm to buildings or the people that occupy the buildings. They can be very discreet and are often not noticed because of their preference to occupy tiny spaces, cracks and crevices in roof voids. Some species such as the brown long eared bat will utilise open loft areas for flying and moving around in. They will roost on bare exposed timber beams, typically beneath the ridge beam. The droppings produced are harmless (largely made up of insect fragments) and do not carry any disease although a very large roost can sometimes produce large quantities of droppings.

3. LEGISLATION

All of our species of domestic bat are protected under both UK and European legislation. In the UK they are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation (Natural Habitats &c.) Regulations 1994. The Habitats Directive has recently been superseded by The Conservation of Habitats and Species Regulations 2010 which came into force on the 1st April 2010

To summarise it is illegal not only to intentionally kill, injure or take any bat but also too recklessly or intentionally damage, destroy or obstruct access to any place that a bat uses for shelter or protection, or to disturb a bat while it is occupying such a place. A roost is protected whether or not bats are present at the time. The reason for this is that bats have a tendency to remain loyal to certain roost sites, often over a long period of time.

The presence of a species protected under European or UK legislation is a material consideration when a planning authority is considering a development proposal which, if carried out would be likely to result in disturbance or harm to the species or its habitat. Section 74 (2) of the CroW Act 2000 (now updated by Section 41 of the Natural Environment and Rural Communities Act (NERC) 2006 requires the publication of lists of habitats and species that are of principal importance for the purpose of conserving biological diversity. The list is regularly changed and updated and many bat species appear on it. NERC consolidates the requirements of the CroW Act in placing duties upon government agencies, including local authorities, to ensure the conservation of Biodiversity.

4. AIMS

The aims of the survey were:

1. To describe any evidence of protected species in the study area.
2. To assess the impact of converting the barn.
3. To suggest mitigation measures as appropriate.

5. STUDY AREA

The site consists of a detached house (not part of the application), the main barn and a few other outbuildings/sheds as detailed below and also within the plan shown in Appendix 1.

The surrounding habitat includes areas of improved and semi improved grassland (grazing and silage), arable crops, hedgerows, mature trees and areas of woodland.

Main barn

A detached barn constructed in a traditional manner with sandstone block walls supporting a pitched timber framed roof covered with slate (no underfelt). The roof has a several clear glass skylight panels which provide a level of natural illumination to the first floor loft area. Internal illumination is also provided by the side windows on the ground floor and also the partially open doorways/windows upstairs.

The internal timbers are exposed but they do not generally support any features likely to be used by bats such as peg holes or open mortise joints. There are a few crevices in the external walls where the mortar has been gradually washed away by rainfall and a few cavities within the internal walls.

Other buildings

Within the application area there is a metal Dutch barn to be removed, a small block shed with a flat roof, another small shed and a derelict lean-to attached to a shippon which is to be retained (and is outside the application boundary).

The site plan is shown in Appendix 1 and the photos are shown in Appendix 2.

6. METHODOLOGY

The buildings were subjected to an internal and external survey on the 6th September 2012, the weather conditions were dry, sunny and mild. As much of the buildings as possible were searched (health and safety and access permitting) using a Cluson rechargeable lamp, a Seesnake endoscope (paying particular attention to the roof sections, ledges and any gaps in the stonework). A search was made for bat droppings, staining, odour, old skeletons and feeding signs (such as wing casings etc). Other evidence such as bird's nests and other signs of nesting birds was also looked for both internally and externally.

An evening emergence/activity survey was undertaken on the 22nd September. The survey was carried out by David Bennett and one other experienced surveyor. The survey was undertaken during good weather conditions with a start temperature of 14° C dropping to 11°C., very light breeze with light cloud. The survey focussed on the main barn because this is the only building that has any potential to support roosting bats. The site was surveyed from 18.45 until approximately 20.45 when all visibility had been lost to ensure that no cryptic species were missed.

The survey was carried out using one Anabat and a Batbox Duet frequency division detector connected to an MP3 recorder. The Batbox Duet allows the operator to hear heterodyne signals while at the same time scanning all frequencies which are recorded to the MP3 player. The recordings are then converted from WMA to .WAV files for analysis on the Batscan software. The Anabat provides a real time sonogram and it also produces individual files which can be analysed as required using the Analook software package.

7. RESULTS

Main barn

Only minor evidence of bats was found with a small pile of droppings (10-12) below a roof timber on the ground floor. This is most likely to have resulted from a single bat using this location as a feeding perch or perhaps an occasional night roost. A couple of other old droppings were found in wall cobwebs elsewhere in the barn but no other evidence was found.

As discussed the loft area is quite light with natural illumination provided by the glass skylight panels and also from a few small gaps in the roof and the side doors/windows. There is no underfelt or roof lining so all areas can be clearly viewed from the wall plate to the ridge.

The internal roof areas and timbers are covered in cobwebs and dust suggesting little movement by roosting bats. The timbers do not generally support features suitable for bats although there are one or two crevices where joints had moved, these were inspected with an endoscope and showed no signs of use by bats.

There are a few crevices in the stone walls, mainly external but there are also some internally. Any that appeared to be deep enough to support bats were inspected with an endoscope and on this occasion showed no signs of use by bats.

In general the barn only has a low potential to support roosting bats. It is fairly open and light internally with very few dark areas. The lack of underfelt or any type of roof lining further reduces the potential. It is also has a noticeable breeze/airflow running through the main loft causing the internal temperature to fluctuate. The only areas with limited potential to support bats are the wall crevices and possibly some spaces above the wall plate.

Dutch barn, block shed and collapsed tin shed

The Dutch barn is completely open and unsuitable for bats. The small block shed is also unsuitable for use by bats due to its construction, lack of suitable roosting areas and high levels of light.

The tin lean-to attached to the shippon (out of the application area) is almost completely collapsed and unsuitable for bats.

Emergence survey

Date	Time	Species	Observation
22.09.12	19.34	45 pipistrelle	Flew over barn from south and possibly from the shippon
	19.37	45 pipistrelle	Feeding in yard by barn
	19.39	45 pip x 2	Feeding in front of barn
	19.44	55 pip	Emerged from top of barn south side
	19.47	Noctule	Flew overhead
	19.51	Myotis	Flew out of barn on south side
	19.52	55 pip	Flew from south side of barn round gable end and back again
	19.54	Myotis x 2	Feeding in front of barn on south side
	19.55	45 pip	Social calls
	19.57	Myotis	Feeding around building
	20.00	45 pip x 2	Feeding around site
	20.05	55 pip	Social calls
	20.07-20.40	45 and 55 pip	General feeding around the site

- No other bats were seen, recorded or heard.
- The analysis of the recordings using BatScan 9 and the recordings taken from the Anabats did not reveal the presence of any other species.
- The analysis of the myotis species sonogram looking at the slope angle suggests that the bat that emerged was a whiskered or Brandt's bat. The other myotis which was recorded also appears to be a whiskered bat.

8. CONCLUSIONS, IMPACTS AND MITIGATION FOR BATS

The survey shows that the building is being used by a very small number of pipistrelle bats *Pipistrellus pipistrellus* and *Pipistrellus pygmaeus*. This species is classed as being relatively common within England and Wales although sizeable roosts (over 100 bats) are less common.

The less common myotis species (probably *Myotis mystacinus*) may just be using the barn as a night or transitional roost but they could be breeding in low numbers, possibly within a wall crevice.

However the loss of the feeding site (and potential night/transitional roost) without the provision of a suitable (secure and long term) alternative may have a detrimental impact upon the sustainability of this species on a local level.

It is therefore advisable to carry out all the works under license from the Welsh Government. Mitigation will need to be provided before, during and post construction. Features suitable for both pipistrelle and other crevice dwelling bats to include the myotis species will be required. Please see the attached mitigation report for further details. Works to convert the main barn will need to be undertaken between October and April inclusive to avoid any potential disturbance to roosting bats.

As a general note, most buildings offer potential for over-wintering and seasonal occupancy for individual bats. This use can be sporadic during the season and actual presence through emergence surveys cannot be fully confirmed. It is therefore recommended that the following precautionary recommendations should be undertaken as good working practice during the conversion phase and also during the demolition of the other buildings.

- All roof tiles/coverings should be removed by hand to ensure that no torpid or hibernating bats are injured during the proposed works.
- Door and window frames should be removed with care to ensure that no torpid or hibernating bats are injured during the proposed works.
- Structural members, lintel bearings, purlins or wall plates should be removed with care to ensure that no torpid or hibernating bats are injured during the proposed works.

- **In the event that bats were found during the demolition then all work should cease and CCW (Mold office) and/or a licensed bat worker should be contacted for further advice.**
- **All works to be undertaken under a Welsh Government license.**

9. BARN OWLS & NESTING BIRDS

Barn owls *Tyto alba* are protected under Schedules 1 & 9 of the Wildlife and Countryside Act (amended by the CROW Act 2000); they are a species of conservation concern.

No evidence of barn owls was found at the time of the survey and at the present time there is no suitable point of access for this species. No evidence of any other species of owl was also noted during the survey.

There is minor evidence of nesting birds within the lower areas of the main barn including a number of swallow nests. The block shed to be demolished has free access through the gaps by the front doors and could be used by nesting birds including swallow.

A suitable scheme for the swallows will need to be agreed before any works commence. One suggestion would be to create suitable access into the shippon which appears to be suitable.

All breeding birds are protected under Section 1(1) and 1(2) of the Wildlife and Countryside Act 1981, as amended. This makes it an offence to damage, disturb, or obstruct access to nests during the bird breeding season (generally March to August).

Care should be taken if undertaking any works during the bird nesting season to avoid any disturbance. If a nest was found (or in the course of being made) then all work should cease until the young have fledged. Particular care should be taken with swallows because they will often be present until well into September.

10. REFERENCES

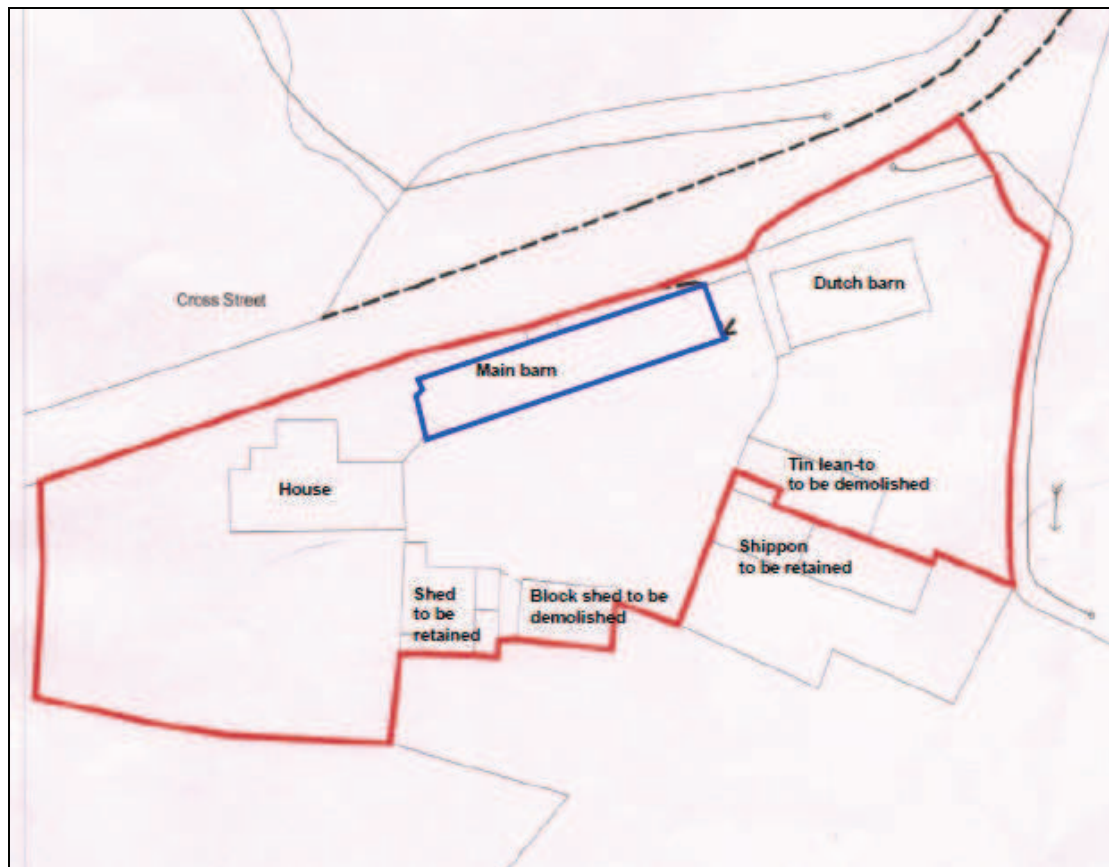
BCT 2007 *Bat Survey Guidelines* London UK

English Nature 2002 *Bats in roofs: a guide for surveyors* English Nature Peterborough UK

Joint Nature Conservation Committee 2004 *Bat Workers Manual* JNCC Peterborough

Mitchell-Jones A J 2004 *Bat Mitigation Guidelines* English Nature Peterborough UK

Appendix 1 – Site plan



Appendix 2 – Site Photos

1. Front (south facing) elevation of the main barn



2. Gable end



3. Rear elevation



4. Part of the main loft area



5. Remaining loft area



6. Dutch barn to be removed



- 7. Shippon to be retained but the metal lean-to will be removed. The shippon itself is outside the application area**



- 8. Block shed to be removed – note bird access through the gaps at the side of the door**

